Complete Summary

GUIDELINE TITLE

ACR Appropriateness Criteria™ for imaging evaluation of the palpable abdominal mass.

BIBLIOGRAPHIC SOURCE(S)

American College of Radiology (ACR), Expert panel on Gastrointestinal Imaging. Imaging evaluation of the palpable abdominal mass. Reston (VA): American College of Radiology (ACR); 2001. 2 p. (ACR appropriateness criteria). [8 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Palpable abdominal mass

GUIDELINE CATEGORY

Diagnosis

CLINICAL SPECIALTY

Family Practice
Gastroenterology
Internal Medicine
Radiology
Surgery

INTENDED USERS

Health Plans
Hospitals
Managed Care Organizations
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of initial radiologic examinations for patients with a palpable abdominal mass

TARGET POPULATION

Patients with a palpable abdominal mass

INTERVENTIONS AND PRACTICES CONSIDERED

1. Computed tomography (CT) (standard or helical)
2. Ultrasound
3. Magnetic resonance imaging (MRI)
4. Supine abdomen film
5. Supine/upright abdomen film
6. Upper gastrointestinal (GI)
7. Upper gastrointestinal with small bowel
8. Barium enema
9. Excretory urogram

MAJOR OUTCOMES CONSIDERED

Utility of radiologic examinations in differential diagnosis

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine´s MEDLINE database. The developer identified and collected the major applicable articles.

NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)
Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Investigators have stressed the ability of computed tomography (CT) and ultrasound to image masses no matter what their organ of origin and have touted them as first-line procedures for evaluation of palpable masses. While certain

combinations of clinical findings could lend themselves to a more targeted approach (for example, hematemesis plus a palpable gastric-region mass might merit endoscopy as the first study), cross-sectional imaging in general is well suited to initial evaluation of abdominal masses. One study in 1981 showed that, compared with strategies not using CT, the use of CT can result in savings in time for diagnosis and overall cost of hospitalization.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the ACR Board of Chancellors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Clinical Condition: Palpable Abdominal Mass

Radiologic Exam Procedure	Appropriateness Rating	Comments
CT (standard or helical)	8	
Ultrasound	8	
MRI	6	
Supine abdomen film	4	
Supine/upright abdomen films	4	
Upper gastrointestinal	4	Exam can be used to evaluate selected cases.
Upper gastrointestinal with small bowel	4	Exam can be used to evaluate selected cases.
Barium enema	4	Exam can be used to evaluate selected cases.
Excretory urogram	4	Exam can be used to evaluate selected cases.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Abbreviations: CT, computed tomography; MRI, magnetic resonance imaging

Summary

There has been little written about the generic use of imaging in evaluating palpable abdominal masses since the 1980s. Rather, newer research has been both scant and focused on evaluation of specific masses using computed tomography (CT), ultrasound (US), and magnetic resonance imaging (MRI).

Investigators have found both US and CT excellent for affirming or excluding a clinically suspected abdominal mass, with sensitivity and specificity values in excess of 95%. This is particularly noteworthy since as few as 16%-38% of patients referred for suspected abdominal mass will have that diagnosis corroborated by an imaging study.

Both US and CT can visualize the organ from which a mass arises. The success of US in determining organ of origin has been 88%-91%, while CT has fared slightly better at 93%. As one might expect, attempts to predict the pathologic diagnosis of masses based on imaging findings are less successful. Ultrasound studies correctly predicted the pathologic diagnosis in 77%-81% of cases, while CT suggested the diagnosis in 88% of cases.

Investigators have stressed the ability of CT and US to image masses no matter what their organ of origin and have touted them as first-line procedures for evaluation of palpable masses. While certain combinations of clinical findings could lend themselves to a more targeted approach (for example, hematemesis plus a palpable gastric-region mass might merit endoscopy as the first study), cross-sectional imaging in general is well suited to initial evaluation of abdominal masses. One study in 1981 showed that, compared with strategies not using CT, the use of CT can result in savings in time for diagnosis and overall cost of hospitalization.

At the time of this writing, no comparative studies evaluating MRI are available. From an intuitive standpoint, however, the nonorgan-specific nature and multiplanar imaging capabilities of MRI seem quite suitable for evaluating of an abdominal mass. In the absence of data, the usefulness of MRI in evaluating palpable masses is unknown. It is likely comparable to CT and US. An interesting alternative to any imaging is palpation-guided fine-needle aspiration, which has demonstrated a 93% diagnostic accuracy of cytological findings.

CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Selection of appropriate radiologic imaging procedures for evaluation of patients with a palpable abdominal mass

POTENTIAL HARMS

None stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American College of Radiology (ACR), Expert panel on Gastrointestinal Imaging. Imaging evaluation of the palpable abdominal mass. Reston (VA): American College of Radiology (ACR); 2001. 2 p. (ACR appropriateness criteria). [8 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1998 (revised 2001)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria.™

GUIDELINE COMMITTEE

ACR Appropriateness Criteria™ Committee, Expert Panel on Gastrointestinal Imaging.

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Philip W. Ralls, MD; Robert L. Bree, MD; Seth N. Glick, MD; Jay P. Heiken, MD; James E. Huprich, MD; Marc S. Levine, MD; Michelle L. Robbin, MD; Pablo R. Ros, MD, MPH; William P. Shuman, MD; Frederick Leslie Greene, MD; Loren A. Laine, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It updates a previous version: ACR Appropriateness Criteria™ for imaging evaluation of the palpable abdominal mass. Radiology 2000 Jun;215(Suppl):201-2.

The ACR Appropriateness Criteria™ are reviewed every five years, if not sooner, depending on the introduction of new and highly significant scientific evidence. The next review date for this topic is 2006.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American College of Radiology (ACR) Web site.

Print copies: Available from American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- American College of Radiology ACR Appropriateness Criteria™ introduction. Reston (VA): American College of Radiology; 6 p. Available in Portable Document Format (PDF) from the ACR Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 19, 2001. The information was verified by the guideline developer on March 29, 2001. This summary was updated by ECRI on July 31, 2002. The updated information was verified by the guideline developer on October 1, 2002.

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